

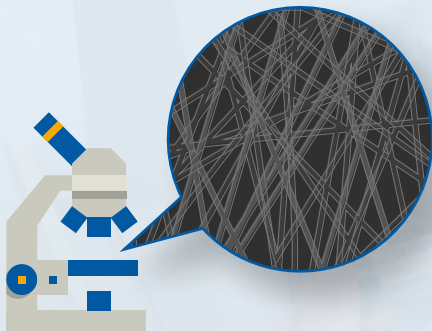
MECHANICAL VS. ELECTROSTATIC FILTERS

SafeStar®



Works like a mechanical mesh:

- 1 Particles (viruses, bacteria) beyond a certain size are held back by pores of a smaller size.
- 2 Additionally, the mesh substrate is coated with hydrophobic material.

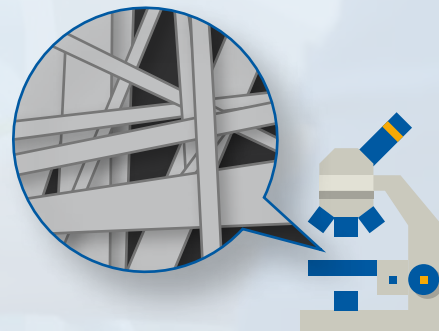


CareStar®



Works like a trap:

- 1 Particles (viruses, bacteria) get „glued“ by electrostatic charge to the mesh fibers.
- 2 There is no defined pore size.



In anaesthesia the creation of a humidity surplus is a wanted effect to avoid patient airway damages.

A mechanical hydrophobic filter will react with increasing resistance and later with obstruction. It will keep on filtering particles, including water drops (up to minimum 60mbar).

Humidity is the enemy of electrostatic charge. So, an electrostatic filter will stop filtering. It will let pass particles and water drops (fluid break through already at 2-3mbar).

When a humidity surplus is expected (e.g. in anaesthesia or in ICU during active humidification) electrostatic filters shall not be used.